

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Barclay et al.

EXPRESS MAIL LABEL NO.:

FILED: HEREWITH

FOR: NOVEL POLYMERS AND PHOTORESIST COMPOSITIONS

THE HONORABLE COMMISSIONER OF PATENTS AND TRADEMARKS
WASHINGTON, DC 20231

SIR:

PRELIMINARY AMENDMENT

Applicants file the above-identified application herewith. Please amend the application as follows.

IN THE SPECIFICATION

At page 1, line 1 of text, please add the following sentence:

--The present application claims the benefit of U.s. provisional application number 60/271,404, filed February 25, 2001, which is incorporated herein by reference in its entirety.--

IN THE CLAIMS

Please cancel without prejudice claims 13-14 and 17-25.

Please amend the following claims.

3. (amended) A photoresist of claim 1 wherein the resin comprises photoacid-labile groups.

5. (amended) A photoresist of claim 2 wherein the resin comprises a photoacid-labile ester group.

6. (amended) A photoresist of claim 1 wherein the resin comprises a polymerized cyclic olefin.

7. (amended) A photoresist of claim 1 wherein the resin comprises a polymerized monomer comprising ethylene unsaturated carbonyl or di-carbonyl.

8. (amended) A photoresist of claim 1 wherein the resin is a terpolymer.

9. (amended) A photoresist of any one of claim 1 wherein the resin is a tetrapolymer.

10. (amended) The photoresist of claim 1 wherein the polymer further comprises one or more units selected from the group consisting of an acid; nitrile; an anhydride; a lactone; or a photoacid labile group that contains a leaving group that has other than an alicyclic moiety.

11. (amended) The photoresist of claim 1 wherein the polymer is substantially of aromatic groups.

12. (amended) A method of forming a positive photoresist relief image, comprising:

- (a) applying a coating layer of a photoresist of claim 1 on a substrate; and
- (b) exposing and developing the photoresist layer to yield a relief image.

15. An article of manufacture comprising a microelectronic wafer substrate or flat panel display substrate having coated thereon a layer of the photoresist composition of any one of claim 1.

REMARKS

The specification has been amended to include the priority claim. For the sole purpose of reducing initial filing fees, claims 13-14 and 17-25 have been cancelled without prejudice, and claims 3, 5-12 and 15 have been amended to eliminate multiple dependencies.

Early consideration and allowance of the application are solicited.

Respectfully submitted,



Peter F. Corless (Reg. 33,860)
EDWARDS & ANGELL, LLP

Dike, Bronstein, Roberts & Cushman IP Group
P.O. Box 9169
Boston, MA 02209
(617) 523-3400

VERSION WITH CHANGES MARKED

3. (amended) A photoresist of claim 1 [or 2] wherein the resin comprises photoacid-labile groups.
5. (amended) A photoresist of claim 2 [or 3] wherein the resin comprises a photoacid-labile ester group.
6. (amended) A photoresist of claim 1 [any one of claims 1 through 5] wherein the resin comprises a polymerized cyclic olefin.
7. (amended) A photoresist of claim 1 [any one of claims 1 through 6] wherein the resin comprises a polymerized monomer comprising ethylene unsaturated carbonyl or di-carbonyl.
8. (amended) A photoresist of claim 1 [any one of claims 1 through 7] wherein the resin is a terpolymer.
9. (amended) A photoresist of any one of claim 1 [claims 1 through 8] wherein the resin is a tetrapolymer.
10. (amended) The photoresist of claim 1 [any one of claims 1 through 9] wherein the polymer further comprises one or more units selected from the group consisting of an acid; nitrile; an anhydride; a lactone; or a photoacid labile group that contains a leaving group that has other than an alicyclic moiety.

11. (amended) The photoresist of claim 1 [any one of claims 1 through 11]
wherein the polymer is substantially of aromatic groups.

12. (amended) A method of forming a positive photoresist relief image,
comprising:

- (a) applying a coating layer of a photoresist of claim 1 [any one of claims 1 through 11] on a substrate; and
- (b) exposing and developing the photoresist layer to yield a relief image.

15. An article of manufacture comprising a microelectronic wafer substrate or flat
panel display substrate having coated thereon a layer of the photoresist composition of any one
of claim 1 [claims 1 through 11].